IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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| In re application of: | Confirmation No.: 6909 |
| ARNESON *et al.* | Art Unit: 3622 |
| Application No.: 09/496,960 | Examiner: James W. Myhre |
| Filed: February 3, 2000 | Atty. Docket: 1689.0010002 |
| For: **Automated Real-Time Distributed Tag Reader Network** | |

## Reply to Notification of Non-Compliant Appeal Brief

***Attn: Mail Stop Appeal Brief - Patents***

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

In reply to the Notification of Non-Compliant Appeal Brief mailed July 16, 2007, Appellants submit the following Amended Appeal Brief and Remarks. The required brief filing fee of $500.00 under 37 C.F.R. § 41.20(b)(2) for a large entity was submitted with Appellants' filing on September 22, 2004. It is not believed that any additional fees are required. However, if additional fees are necessary to prevent abandonment of this application, then such are hereby authorized to be charged to our Deposit Account No. 19-0036.

## *Remarks*

The Notification of Non-Compliant Appeal Brief states that the "Appeal Brief filed on 22 September 2004 is defective for failure to comply with one or more provisions of 37 CFR 41.37." The Order Returning Undocketed Appeal to Examiner mailed March 22, 2006 states that the application is not ready for docketing as an appeal because the Evidence Appendix as set forth in 37 CFR §41.37(c)(1)(ix) and the Related Proceedings Appendix as set forth in 37 CFR §41.37(c)(1)(x) are missing.

The Notification of Non-Compliant Appeal Brief also states that the "brief does not contain the items required under 37 CFR 41.37(c), or the items are not under the proper heading or in the proper order." The Notification of Non-Compliant Appeal Brief further states that the "brief does not contain copies of the decisions rendered by a court or the Board in the proceeding identified in the Related Appeals and Interferences section of the brief as an appendix thereto." The Related Appeals and Interferences section of Appellants' Appeal Brief states "[t]o the best of knowledge of Appellants, Appellants' legal representative, and Appellants' assignee, there are no other appeals or interferences which will directly affect or be directly affected or have a bearing on a decision by the Board of Patent Appeals and Interferences ("the Board") in the pending appeal." (Appeal Brief, p. 3). Thus, it is clear from the Related Appeals and Interferences section that Appellants had no copies of decisions to include in an appendix.

The Manual of Patent Examining Procedure (MPEP) states that the "examiner should not require a corrected brief for minor non-compliance in an appeal brief." (MPEP, §1205.03). The MPEP further describes examples of minor non-compliances including:

> If the evidence appendix and related proceedings appendix are missing, but the record is clear that there is no evidence submitted and no related proceedings listed in the related appeals and interferences section, the examiner may accept the brief and state in the examiner's answer that it is assumed that the appellant meant to include both appendixes with a statement of "NONE."

(MPEP, §1205.03). It is clear from Appellants' Appeal Brief that there was no evidence to be submitted and no related decisions to be listed in the appendixes. Thus, the Examiner's acceptance of Appellants' September 22, 2004 Appeal Brief was proper. Appellants therefore request that Appellants' Appeal Brief of September 22, 2004, the Examiner's Answer of November 26, 2004, and Appellants' Reply Brief of January 26, 2005 (and Request for Oral Hearing) be re-instated.

However, to expedite consideration of the Brief, Appellants have amended the Appeal Brief to include an Evidence Appendix and a Related Proceedings Appendix. Each section includes a statement of "NONE."

Accordingly, all of the stated grounds of non-compliance have been properly traversed, accommodated, or rendered moot. Appellants therefore respectfully request that the attached Amended Appeal Brief be entered.

Respectfully submitted,

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Date: October 5, 2007

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| For: **Automated Real-Time Distributed Tag Reader Network** | |

# Amended Brief on Appeal Under 37 C.F.R. § 41.37

***Attn: Mail Stop: Appeal Brief-Patents***

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

A Notice of Appeal from the final rejection of claim 1-38 for the above-captioned U.S. Patent Application was filed on July 22, 2004, appealing the decision of the Examiner in the Final Office Action mailed April 22, 2004, maintaining the rejection of claims 1-38. Appellants hereby file one copy of this Amended Appeal Brief. The required fee set forth in 37 C.F.R. §41.20(b)(2) was submitted with Appellants' Appeal Brief filing on September 22, 2004.

In support of the Notice of Appeal, Appellant hereby files an appeal brief as required under 37 C.F.R. § 41.37(a). Appellant has also filed herewith the fee for filing a brief in support of an appeal as set forth in 37 C.F.R. § 41.37(a)(2)

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## *I. Real Party in Interest (37 C.F.R. § 41.37(c)(1)(i))*

The real party in interest in this appeal is Matrics, Inc., 8850 Stanford Boulevard, Suite 3000, Columbia, Maryland 21045. An assignment assigning all right, title, and interest in and to the patent application from the inventors to Matrics was recorded in the U.S. Patent & Trademark Office on March 9, 2001 at Reel 011576, Frame 0229.

## *II. Related Appeals and Interferences (37 C.F.R. § 41.37(c)(1)(ii))*

To the best of knowledge of Appellants, Appellants' legal representative, and Appellants' assignee, there are not other appeals or interferences which will directly affect or be directly affected or have a bearing on the Board's decision in the pending appeal.

## *III. Status of the Claims (37 C.F.R. § 41.37(c)(1)(iii))*

This application was originally filed as U.S. Application No. 09/496,960 on February 3, 2000 with 36 claims. Claims 1-14, 16, 19-32, and 34 were amended and claims 37 and 38 were added in the Amendment and Reply filed on January 29, 2003. Claims 37 and 38 were amended in the Amendment and Reply filed on May 7, 2003. Claims 1, 2, 4, 5, 8, 16, 19, 20, 22, 23, 26, 34, 37 and 38 were amended in the Amendment and Reply filed on March 1, 2004.

The pending claims were finally rejected in an Office Action mailed April 22, 2004. No claim stands allowed.

Accordingly, the claims on appeal are claims 1-38. A copy of the claims on appeal can be found in the attached Appendix as required under 37 C.F.R. § 1.192(c)(9).

## *IV. Status of Amendments (37 C.F.R. § 41.37(c)(1)(iv))*

All amendments have been entered. The Final Office Action dated April 22, 2004, responded to and acknowledged Appellants' amendment filed March 1, 2004.

## *V. Summary of the Claimed Subject Matter (37 C.F.R. § 41.37(c)(1)(v))*

Independent claim 1 is directed to a method of conducting a wireless inventory of items using a network tag reader and tags, wherein a unique tag is attached to each item and each tag is identified by a plurality of bits. (Specification, page 5, lines 8-25; FIG. 15). The network reader 1120 selects one of a plurality of remote access sensor modules 1104a-c, which communicate wirelessly with the items. (Specification, page 47, lines 11-15). The selected remote sensor module 1104 comprises a coverage pattern 1304 that defines a physical area containing a plurality of items with their associated tags 102 (Specification, page 37, lines 20-28). The network reader 1120 then interrogates the tags 102 in the defined physical area through the corresponding remote access sensor module 1104 and thereby receives information from the tags in the defined physical area. (Specification, page 47, line 16 - page 48, line 21). The received information is then stored in an inventory database 1121. (Specification, page 48, lines 22-28). The network reader system then repeats these steps for each remote access sensor module 1104. (Specification, page 48, line 29 - page 49, line 7). After the steps are performed for each remote access sensor module, the received information is processed. (Specification, page 49, lines 11-16).

Independent claim 19 is directed to a system of conducting a wireless inventory of items using a network tag reader and tags, wherein a unique tag is attached to each item and each tag is identified by a plurality of bits. (Specification, page 5, lines 8-25;

FIG. 15). The system includes a means for selecting one of a plurality of remote access sensor modules 1104a-c, which communicate wirelessly with the items. (Specification, page 31, lines 3-14; page 31, line 27 - page 32, line 26). The selected remote sensor module 1104 comprises a coverage pattern 1304 that defines a physical area containing a plurality of items with their associated tags 102 (Specification, page 37, lines 20-28). The system further includes a means for interrogating the tags 102 in the defined physical area through the corresponding remote access sensor module 1104, thereby receiving information from the tags in the defined physical area. (Specification, page 37, line 29 - page 38, line 26). The system further includes a means for storing the information received by the interrogating means in an inventory database 1121. (Specification, page 31, lines 8-14; page 38, line 27 - page 39, line 22). The system further includes a means for repeating the selecting, interrogating, and storing means for each remote access sensor module 1104 and a means for processing the information in the inventory database. (Specification, page 31, lines 8-14; page 38, line 27 - page 39, line 22).

Dependent claim 16 provides additional details regarding the interrogation step of claim 1. (FIG. 5). The network reader 1120 transmits through the selected remote access sensor module 1104 a first clock signal. (Specification, page 14, line 23 - page 15, line 3). Each tag 102 within the physical area defined by the coverage pattern of the selected remote access sensor module 1104 increments a first tag count in response to the first clock signal and transmits at least a first plurality of the plurality of bits identifying the tag when the first plurality of bits of the tag corresponds to the first tag count. (Specification, page 15, lines 3-24). The network tag reader 1120 increments a first reader count in response to the first clock signal and stores a given first reader count

when more than one tag responds to the first clock signal that corresponds to the given first reader count. (Specification, page 15, line 25 - page 16, line 2). The network reader 1120 transmits through the selected remote access sensor module the given first reader count followed by a second clock signal. (Specification, page 16, lines 18 - 28). At each tag 102 having the first plurality of bits corresponding to the first reader count, the tag increments a second tag count in response to the second clock signal and transmits at least a second plurality of the plurality of bits identifying the tag when the second plurality of the plurality of bits identifying the tag corresponds to the second count. (Specification, page 16, line 27 - page 17, line 3).

Dependent claim 34 provides additional details regarding the interrogation means of claim 19. (FIG. 5). The network reader 1120 includes means for transmitting through the selected remote access sensor module 1104 a first clock signal. (Specification, page 31, lines 3-14; page 31, line 27 - page 32, line 26). Each tag 102 within the physical area defined by the coverage pattern of the selected remote access sensor module 1104 includes means for incrementing a first tag count in response to the first clock signal and means for transmitting at least a first plurality of the plurality of bits identifying the tag when the first plurality of bits of the tag corresponds to the first tag count. (FIG. 3A; Specification, page 8, line 15 - page 10, line 19; page 11, lines 21-26; page 15, lines 3-24). The network tag reader 1120 further includes means for incrementing a first reader count in response to the first clock signal and means for storing a given first reader count when more than one tag responds to the first clock signal that corresponds to the given first reader count. (FIG. 4, Specification, page 12, line 27 - page 13, line 19; page 15, line 25 - page 16, line 2). The network reader 1120 also includes means for transmitting through the selected remote access sensor module

the given first reader count followed by a second clock signal. (Specification, page 31, lines 3-14; page 31, line 27 - page 32, line 26). At each tag 102 having the first plurality of bits corresponding to the first reader count, the tag includes means for incrementing a second tag count in response to the second clock signal and means for transmitting at least a second plurality of the plurality of bits identifying the tag when the second plurality of the plurality of bits identifying the tag corresponds to the second count. (FIG. 3A, Specification, page 8, line 15 - page 10, line 19; page 11, lines 21-26; page 15, lines 3-24; page 16, line 27 - page 17, line 3).

Dependent claims 37 and 38 depend from claims 1 and 19 respectively. Claim 37 recites the step of performing multiple reads of the tags by the network tag reader and claim 38 recites that the network tag reader performs multiple reads of the tags "to avoid slot contention, wherein a tag responds to the network tag reader with a first plurality of bits during a first read and a second plurality of bits during a second read." (Specification, page 14, line 23 - page 17, line 15).

## *VI. Grounds of Rejection to be Reviewed on Appeal (37 C.F.R. § 41.37(c)(1)(vi))*

In the final Office Action mailed April 22, 2004 (Paper No. 17), the Examiner rejected claims 1-14, 17, 19-32, and 35 under 35 U.S.C. §103 as allegedly being unpatentable over Guthrie *et al.*, U.S. Patent No. 5,289,372 (hereinafter Guthrie), claims 15, 18, 33, and 36 under 35 U.S.C. §103 as allegedly being unpatentable over Guthrie in view of Kaplan *et al.*, U.S. Patent No. 3,689,885 (hereinafter Kaplan), and claims 16, 34, 37 and 38 as being unpatentable over Guthrie in view of Walter, U.S. Patent No. 5,856,788 (hereinafter Walter).

Accordingly, the grounds of rejection to be reviewed on appeal are:

A. Rejection of claims 1-14, 17, 19-32, and 35 under 35 U.S.C. §103 over U.S. Patent No. 5,289,372 to Guthrie, *et al.*

B. Rejection of claims 16, 34, 37 and 38 under 35 U.S.C. §103 over Guthrie in view of Walter, U.S. Patent No. 5,856,788.

C. Rejection of claims 15, 18, 33, and 36 under 35 U.S.C. §103 over Guthrie in view of Kaplan *et al*, U.S. Patent No. 3,689,885.

## *VII. Argument (37 C.F.R. § 41.37(c)(1)(vii))*

A. ***Ground A.*** Rejection of claims 1-14, 17, 19-32, and 35 under 35 U.S.C. §103 over U.S. Patent No. 5,289,372 to Guthrie, *et al.*

### *1. The Examiner's Obviousness Rejection*

A Final Office Action was mailed on April 22, 2004 [Paper 17], that repeated an earlier rejection of claims 1-14, 17, 19-32, and 35 under 35 U.S.C. § 103 over Guthrie. Appellants' remarks focus mainly on independent claims 1 and 19, as any claim which depends from a patentable independent claim is also patentable by virtue of its dependency.

### *2. The Obviousness Rejection is in Error and Must be Reversed*

In proceedings before the Patent and Trademark Office, the examiner bears the burden of establishing a *prima facie* case of obviousness based on prior art. *In re Piasecki,* 745 F.2d 1468, 1471-73, 223 USPQ (BNA) 785, 787-88 (Fed. Cir. 1984). To

establish a *prima facie* case of obviousness, three criteria must be met. First, some motivation or suggestion must exist in the reference or in the knowledge generally available to one of ordinary skill in the art to modify the reference. *In re Vaeck,* 947 F.2d 488, 493, 20 USPQ 1438, 1443 (Fed. Cir. 1991). Second, the reference must reveal a reasonable expectation of success. *Id.* Finally, the reference must teach or suggest all the claim limitations. *In re Royka,* 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Because the Examiner has failed to establish all of these criteria, the rejection of claims 1-14, 17, 19-32, and 35 must be reversed.

***a. All claim limitations are not taught or suggested by Guthrie.***

Guthrie does not teach or suggest all the limitations of Appellants' claims 1 and 19. Guthrie does not teach or suggest, as recited in Appellants' independent claims 1 and 19, "wherein the selected remote access sensor module comprises *a coverage pattern that defines a physical area* containing a plurality items with their associated tags" and "*interrogating the tags in a defined physical area* through the corresponding selected remote access sensor module, thereby receiving information from the tags in the defined physical area." Instead, Guthrie teaches a plurality of sensors physically connected via wiring to a collector. (Guthrie, col. 7, lines 59-61)("The sensors 18 connect to the collector 19 by way of a conventional 6-conductor telephone cable 24 using RJ11 connectors, 24a, for example"). Thus, because the collectors can only receive data from sensors that are physically connected thereto, the collectors taught by Guthrie do not provide a "coverage pattern" as defined in Appellants invention or as the term is well understood in the wireless community.

Furthermore, the Examiner states that, in Guthrie, each collector only polls the sensor located within its room and equates a room to a coverage pattern. (Office Action, page 11)("each collector only polls the sensor located within its room -- its coverage pattern"). The Examiner misunderstands Guthrie. Guthrie does not teach or suggest the ability to poll each sensor located within a room. As described above, Guthrie can only poll those sensors that are physically connected to the collector. Furthermore, Guthrie does not teach or suggest polling items within a "coverage pattern that defines a specific area." At most, Guthrie teaches the ability to poll a collection of specific, predefined, points. Thus, for example, new inventory that is brought into a room/area or existing inventory in a room/area that is not physically connected to the system of Guthrie will not be polled.

In addition, Guthrie does not teach a method and system "for conducting a wireless inventory of items," as recited in independent claims 1 and 19. The Examiner acknowledges that Guthrie teaches wired connections to link the tags and the collectors. (Office Action, page 3; *See also* Guthrie, col. 5, lines 37-39)("sensors 18 are connected to the control unit 16 by way of separate data cables 24").

***b. There is no motivation or suggestion to modify Guthrie to obtain the claimed invention.***

As one of the requirements to establish a *prima facie* case of obviousness of claims 1-15, 17, 19-32, and 35, the Examiner must show that there was a suggestion or motivation to modify Guthrie to obtain the claimed invention.

There is no suggestion or motivation to modify Guthrie to obtain a system for and method of conducting a wireless inventory. A prima facie case of obviousness is established when the reference teachings would appear to be sufficient for one of

ordinary skill in the relevant art to make the proposed modification. *In re Linter,* 458 F. 2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972).

Guthrie teaches away from Appellants method and system for conducting a *wireless* inventory. When references teach away from their combination, it is improper for an Examiner to combine those references. *In re Grasselli,* 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1993). Guthrie describes an equipment tracking system that provides for configuration management control over a plurality of pieces of equipment *physically wired* to a collector. Thus, the system in Guthrie is designed only for use in wired configuration. Nowhere does Guthrie teach or suggest that the wired connections between pieces of equipment and the collector in his invention can be replaced with a wireless link. The Examiner acknowledges that Guthrie discloses that using wireless (RF) transmissions is not suitable for Federal Government facilities or when secrecy considerations are required. (Office Action, page 3.) Guthrie further discloses that highly sensitive equipment can be operationally contaminated by stray signal transmissions if RF transmissions are used. (Guthrie, col. 3, lines 40-44). Thus, Guthrie clearly teaches that RF transmissions are not appropriate in the context of this invention

Nevertheless, the Examiner asserts, contrary to the very teachings of Guthrie, that it would be obvious to poll the sensors taught by Guthrie wirelessly. (Office Action, page 3). The Examiner cites *Celeritas Technologies Ltd. v. Rockwell International Corp.* in support of his argument. (Office Action, page 11). However, in *Celeritas*, the issue before the court was whether the argument that a reference 'teaches away' from an invention is applicable to an *anticipation* analysis. (*Celeritas,* 150 F.3d 1354, 1361). The issue in the present case is whether Guthrie 'teaches away' from making the modifications necessary to achieve Appellants' invention. As cited above, Guthrie does

not first describe or suggest wireless and wired versions of his system and then identify the wireless version as preferred system. Guthrie only describes a wired system that overcomes limitations inherent in wireless systems. Thus, *Celeritas* does not apply to the facts of the present case.

In addition, the modification proposed by the Examiner would render Guthrie unsatisfactory for its intended purpose. If a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon,* 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). In Guthrie, a collector "sends out a load pulse" on the cable attached to each sensor. In response, each sensor loads its GETS ID number into its shift registers. The collector then sends a shift pulse to all the attached sensors. In response, each sensor transmits the first bit of its GETS ID to the collector. As a result, one bit from each sensor connected to the collector is seen at the same time by the collector. The collector repeats this process to obtain each bit of the GETS ID from each collector. (Guthrie, col. 9, lines 35-67). Thus, the collector uses its physical connections to associate received bits with specific sensors. If the physical connection was removed from Guthrie and replaced with a wireless connection, the collector in Guthrie would have no method of associating a received bit with a particular transmitting sensor. Thus, the modification would render Guthrie unsatisfactory for its intended purpose, tracking equipment.

***c. Inappropriate Hindsight Analysis Has Been Used in an Attempt to Reconstruct the Claimed Invention.***

The Examiner has used inappropriate hindsight in an attempt to modify Guthrie to obtain a method and system for conducting a wireless inventory of items by using

Appellants' disclosure as a template for obtaining the invention. Appellants' claimed invention relates to a method and system for conducting a wireless inventory of items located in a plurality of remote access sensor module coverage patterns. Thus, Appellants' invention provides a list of all items located within the plurality of remote access sensor module coverage patterns. Guthrie does not teach a method and system for conducing a wireless inventory, but rather a global equipment tracking system that provides configuration management information regarding the physical status of computer-related equipment. (Guthrie, col. 1, lines 5-10). As described above, the computer-related equipment taught by Guthrie is physically tethered to one or more collectors. Thus, Guthrie can only determine what piece of equipment is currently connected to a wire. If a collector wire became accidentally disconnected from a piece of equipment or was cut in some way, the system of Guthrie could not inventory the piece of equipment, even though it is still a part of the system. Conducting an inventory, which implies items being flexibly removed from and/or added to an area where the inventory is being conducted, is thus illogical in the wired environment of Guthrie. The Examiner has merely used impermissible hindsight to reject the claimed invention.

As such, because Guthrie does not teach or suggest all the claim limitations, because there was no suggestion or motivation to modify Guthrie, as was done, and because hindsight was improperly used, the rejection of claims 1-14, 17, 19-32, and 35, must be reversed.

B. ***Ground B.*** Rejection of claims 16, 34, 37 and 38 under 35 U.S.C. §103 over Guthrie in view of Walter, U.S. Patent No. 5,856,788.

### *1. The Examiner's Obviousness Rejection*

A Final Office Action was mailed on April 22, 2004 [Paper 17], rejecting claims 16, 34, 37 and 38 under 35 U.S.C. § 103 over Guthrie in view Walter, U.S. Patent 5,856,788.

### *2. The Obviousness Rejection is in Error and Must be Reversed*

#### *a. There is no motivation or suggestion to modify Guthrie and/or Walter to obtain the claimed invention.*

As one of the requirements to establish a *prima facie* case of obviousness of claims 16, 34, 37 and 38, the Examiner must show that there was a suggestion or motivation to modify Walter or Guthrie to obtain the claimed invention. In support of his motivation to modify Walter, the Examiner states that "one would have been motivated to use bitwise interrogation in view of Guthrie's disclosure of reading in eight bits of the tag ID at a time until all 26 bits have been received." As discussed above, the Examiner misunderstands this passage of Guthrie. In Guthrie, each bit of the GETS ID of a sensor is transmitted to the collector individually, in response to the receipt of a series of 31 shift pulses. An individual sensor does not transmit eight bits of the tag ID at a time, as stated by the Examiner. Instead, a collector can receive 8 bits in parallel from eight different sensors. As stated by Guthrie, "these eight bits are comprised of one bit from each of the eight possible sensors." (Guthrie, col. 10, lines 3-8). Thus, the sensors in Guthrie do no more than transmit one bit at a time, as do the tags in Walter. Thus, this

passage in Guthrie provides no motivation or suggestion that a plurality of bits are read from the tags.

Furthermore, the Examiner states that "while it is not explicitly disclosed that a plurality of bits are read each time, it would have been obvious to one having ordinary skill in the art at the time the invention was made that in order to use difference [sic] parts of the identification number for multiple reads ... one would have been motivated to use a plurality of bits in order to decrease the time it takes to identify a plurality of items when the identification number consists of a large number of bits." (Office Action, page 9). This statement by the Examiner is unsupported by any documentary evidence. As such, the Examiner must provide specific findings predicated on sound technical and scientific reasoning to support his or her conclusion of common knowledge. *In re Soli,* 317 F.2d 941, 946, 137 USPQ 797, 801 (CCPA 1943); *See also In re Zurko*, 258 F.3d 1379, 1386, 59 USPQ2d 1693, 1697 (holding that general conclusions concerning what is basic knowledge or common sense to one of ordinary skill in the art without specific factual findings and some concrete evidence in the record to support these findings will not support an obviousness rejection).

The Examiner recites as his only factual support for modifying Walter to obtain Appellants' invention, results of calculations showing that it would be faster to read a tag 4 bits at a time rather than 1 bit at a time. First, it is unclear how the Examiner devised his results. The Examiner states that reading 100 items each containing 88 bits, 4 bits at a time, would take only 1,100 reads. Appellants submit that even in an ideal world with no time slot contention, it would take at least 2,200 reads to identify all 100 items. Furthermore, the Examiner neglects to recite facts or evidence regarding how his multiple read scenario addresses time slot contention.

Because neither Guthrie nor Walter include any suggestion or motivation to modify the other to avoid time slot contention and/or to respond to the network tag reader with a first plurality of bits during a first read and a second plurality of bits during a second read as recited in claims 16, 34, 37 and 38, and further because the Examiner impermissibly asserted common knowledge to find limitations of claims 16, 34, 37 and 38 in the combination of Guthrie and Walter, the rejection of claims 16, 34, 37 and 38 must be reversed.

***b. All claim limitations are not taught or suggested by the combination of Guthrie and Walter.***

To establish *prima facie* obviousness, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). When making this determination, "[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). The Examiner argued in the Final Office Action that "while the Applicant is free to express the claim in as many words as he wishes, it is the steps of the claims which are being examined, not the terminology used by the Applicant." (Office Action, page 12, lines 5-7). Thus, the legal premise followed by the Examiner in the rejection of claims 16 and 34 was erroneous. By disregarding the exact language used by Appellants the Examiner misunderstood claims 16 and 34 and misapplied Guthrie to these claims.

Claim16 recites among other features:

> at each tag within the physical area defined by the coverage pattern of the selected remote access sensor module,

> incrementing a first tag count in response to the first clock signal, and
>
> transmitting at least a first plurality of the plurality of bits identifying the tag when the first plurality of bits of the tag corresponds to the first tag count.

Claim 34 recites among other features:

> at each tag within the physical area defined by the coverage pattern of the selected remote access sensor module,
>
> means for incrementing a first tag count in response to the first clock signal, and
>
> means for transmitting at least a first plurality of the plurality of bits identifying the tag when the first plurality of bits of the tag corresponds to the first tag count.

In the Final Office Action, the Examiner summarized these claims elements as "each tag receives the timer signal and responds with its tag ID." (Office Action, page 12, lines 10-11).

In Appellants' claimed invention, each tag does not respond when it receives the first clock signal. Instead, each tag increments a first tag count in response to the first clock signal and transmits its complete Tag ID *only when the Tag ID corresponds to the first tag count*. Unlike Appellants' invention, in Guthrie, a collector "sends out a load pulse" on the cable attached to each sensor. Each sensor in response loads its GETS ID number into its shift registers. The collector then sends a shift pulse to all the attached sensors. In response, each sensor transmits the first bit of its GETS ID to the collector in parallel. As a result, one bit from each sensor connected to the collector is seen at the same time. (Guthrie, col. 9, lines 35-67). Thus, the sensors in Guthrie do not store and increment a tag count corresponding to a first clock signal. In addition, the shift pulses used in Guthrie can be sent at any interval and therefore, cannot be considered clock signals. Furthermore, the sensors in Guthrie respond automatically with only a single bit

of their GETS ID upon receipt of a shift pulse, regardless of the value of the bit to be transmitted. Thus, the sensors do not transmit their entire GETS ID in response to a single shift pulse.

Claim 16 further recites, among other features:

> at the network tag reader,
>
> incrementing a first reader count in response to the first clock signal,
>
> storing a given first reader count when more than one tag responds to the first clock signal that corresponds to the given first reader count, and
>
> transmitting through the selected remote access sensor module the given first reader count followed by a second clock signal, and
>
> at each tag wherein the first plurality of bits corresponds to the first reader count,
>
> incrementing a second tag count in response to the second clock signal, and
>
> transmitting at least a second plurality of the plurality of bits identifying the tag when the second plurality of the plurality of bits identifying the tag corresponds to the second count.

Claim 34 further recites, among other features:

> at the network tag reader,
>
> means for incrementing a first reader count in response to the first clock signal,
>
> means for storing a given first reader count when more than one tag responds to the first clock signal that corresponds to the given first reader count, and
>
> means for transmitting through the selected remote access sensor module the given first reader count followed by a second clock signal; and
>
> at each tag wherein the first plurality of bits corresponds to the first reader count,
>
> means for incrementing a second tag count in response to the second clock signal, and

means for transmitting at least a second plurality of the plurality of bits identifying the tag when the second plurality of the plurality of bits identifying the tag corresponds to the second count.

The Examiner summarizes these items as "the reader receives the responses from the tags; increments a data store (first reader count) when there is a time slot contention; and transmits a second timer signal along with the first reader count; each responding tag receives the second signal and transmits a second number back to the reader." (Office Action, page 12). The Examiner applies this understanding of the claim elements to Guthrie and states that "each tag receives the signals and responds with the first eight bits of data from its tag ID; the collector receives and stores this data (first reader count) then requests the next bit(s) from each tag and repeats the process until all 26 bits of each sensor ID number is read. Thus, Guthrie ... discloses all the components used in the present Claims 16 and 34." (Office Action, page 12).

The Examiner misunderstands the Guthrie reference. In Guthrie, each bit of the GETS ID of a sensor is transmitted to the collector individually, in response to the receipt of a series of 31 shift pulses. An individual sensor does not transmit the first eight bits of data from a plurality of bits identifying the sensor upon receipt of signals from a reader. In Guthrie, a collector receives one bit from eight different sensors in parallel (8 bits total). As stated by Guthrie, "these eight bits are comprised of one bit from each of the eight possible sensors." (Guthrie, col. 10, lines 3-8).

Even assuming arguendo that the Examiner's understanding of Guthrie is correct, the Examiner acknowledges that in Guthrie only the "sensor ID number is

read." (Office Action, page 13). Thus, by the Examiner's own admission, Guthrie does not teach the use of a first and second number, as recited in Appellants' claims 16 and 34.

Claims 37 and 38 recites:

> "performing multiple reads of the tags by the network tag reader *to avoid time slot contention*, wherein a tag responds to the network tag reader with a first plurality of the plurality of bits during a first read and a second plurality of the plurality of bits during a second read" (emphasis added)

Because Guthrie describes a system where each sensor is physically connected to a buffer in the collector and the collector receives bits from a plurality of sensors in parallel, the notion of a time slot contention is illogical. Thus, Guthrie does not teach or suggest the limitations of claims 16, 34, 37, and 38 related to avoidance of time slot contention.

As discussed above, independent claims 1 and 19 are not obvious in view of Guthrie. Walter does not overcome all of the deficiencies Guthrie relative to claims 1 and 19 or 16, 34, 37, and 38, described above. Claims 16 and 37 depend from claim 1 and Claims 34 and 38 depend from claim 19. As such, because of the foregoing reasons discussed above in reference to claims 1 and 19 and further because the combination of Guthrie and Walter does not teach or suggest all the claim limitations recited in claims 16, 34, 37, and 38, the rejection of claims 16, 34, 37, and 38 must be reversed.

C. ***Ground C.*** Rejection of claims 15, 18, 33, and 36 under 35 U.S.C. §103 over Guthrie in view of Kaplan *et al*, U.S. Patent No. 3,689,885.

***1. The Examiner's Obviousness Rejection***

A Final Office Action was mailed on April 22, 2004 [Paper 17], rejecting claims 15, 18, 33, and 36 under U.S.C. § 103 over Guthrie in view Kaplan, *et al*, U.S. Patent 3,689,885.

***2. The Obviousness Rejection is in Error and Must be Reversed***

Claims 15, 18, 33 and 36 depend, respectively, from amended claims 1 and 19 and include the features recited therein. Kaplan does not overcome all of the deficiencies Guthrie relative to claims 1 and 19, described above. For at least this reason, the rejection of claims 15, 18, 33, and 36 must be reversed.

***VII. Conclusion***

The subject matter of claims 1-38 are patentable over the cited prior art because the Examiner has failed to make a *prima facie* case of obviousness. Therefore, Appellants respectfully request that the Board reverse the Examiner's final rejection of these claims under 35 U.S.C. §103 and remand this application for issue.

Respectfully submitted,

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CLAIMS APPENDIX

1. A method of conducting a wireless inventory of items using a network tag reader and tags, wherein a unique tag is attached to each item and-each tag is identified by a plurality of bits, the method comprising the steps of:

selecting one of a plurality of remote access sensor modules, which communicate wirelessly with the items, wherein the selected remote access sensor module comprises a coverage pattern that defines a physical area containing a plurality of items with their associated tags;

interrogating the tags in a defined physical area through the corresponding selected remote access sensor module, thereby receiving information from the tags in the defined physical area;

storing the information received in the interrogating step in an inventory database;

repeating the selecting, interrogating, and storing steps for each remote access sensor module; and

after the selecting, interrogating, and storing steps are performed for each remote access sensor module, processing the information in the inventory database.

2. The method of claim 1, wherein the information received in the interrogating step comprises at least a first plurality of the plurality of bits corresponding to a tag within the physical area defined by the coverage pattern.

3. The method of claim 2, further comprising the step of repeating the selecting, interrogating, storing, repeating, and processing steps.

4. The method of claim 3, wherein the storing step comprises the step of:

if a particular first plurality of the plurality of bits corresponding to a tag received during an initial performance of the interrogating step has not been received during a subsequent performance of the interrogating step within a predetermined time period, storing information in the inventory database that indicates tag corresponding to the particular first plurality of bits is missing.

5. The method of claim 4, wherein the processing step comprises the step of initiating a security action when the particular first plurality of bits is missing.

6. The method of claim 5, wherein the security action comprises turning on a surveillance camera.

7. The method of claim 5, wherein the security action comprises activating a silent alarm.

8. The method of claim 2, wherein the processing step comprises the step of correlating a remote access sensor module identity with each of the first plurality of bits received in the interrogating step to maintain data regarding the location of each tag corresponding to each of the first plurality of bits.

9. The method of claim 1, wherein the information received in the interrogating step comprises sensor information originated by a sensor associated with a tag within the physical area defined by the coverage pattern.

10. The method of claim 9, wherein the sensor information indicates tag movement and/or vibration.

11. The method of claim 9, wherein the sensor information indicates ambient tag temperature.

12. The method of claim 9, wherein the processing step comprises the step of analyzing the sensor information for a condition that indicates a security breach.

13. The method of claim 12, wherein the condition that indicates a security breach comprises a temperature fluctuation.

14. The method of claim 12, wherein the condition that indicates a security breach comprises a sudden vibration.

15. The method of claim 1, wherein the network tag reader is connected to each of the plurality of remote access sensor modules through an electrical power distribution system.

16. The method of claim 1, wherein the interrogating step comprises the steps of:

at the network tag reader,

transmitting through the selected remote access sensor module a first clock signal;

at each tag within the physical area defined by the coverage pattern of the selected remote access sensor module,

incrementing a first tag count in response to the first clock signal, and

transmitting at least a first plurality of the plurality of bits identifying the tag when the first plurality of bits of the tag corresponds to the first tag count;

at the network tag reader,

incrementing a first reader count in response to the first clock signal,

storing a given first reader count when more than one tag responds to the first clock signal that corresponds to the given first reader count, and

transmitting through the selected remote access sensor module the given first reader count followed by a second clock signal; and

at each tag wherein the first plurality of bits corresponds to the first reader count,

incrementing a second tag count in response to the second clock signal, and

transmitting at least a second plurality of the plurality of bits identifying the tag when the second plurality of the plurality of bits identifying the tag corresponds to the second count.

17. The method of claim 1, wherein the network tag reader is a PCMCIA card.

18. The method of claim 1, wherein at least one of the remote access sensor modules attaches to an electrical lighting fixture.

19. A system for conducting a wireless inventory of items using a network tag reader and tags, wherein a unique tag is attached to each item and each tag is identified by a plurality of bits, comprising:

means for selecting one of a plurality of remote access sensor modules, which communicate wirelessly with the items, wherein the selected remote access sensor

module comprises a coverage pattern that defines a physical area containing a plurality of items with their associated tags;

means for interrogating the tags in a defined physical area through the corresponding selected remote access sensor module, thereby receiving information from the tags in the defined physical area;

means for storing the information received by the interrogating means in inventory database;

means for repeating the selecting, interrogating, and storing means for each remote access sensor module; and

means for processing the information in the inventory database.

20. The system of claim 19, wherein the information received by the interrogating means comprises at least a first plurality of the plurality of bits corresponding to a tag within the physical area defined by the coverage pattern.

21. The system of claim 20, further comprising means for repeatedly invoking the selecting, interrogating, storing, repeating, and processing means.

22. The system of claim 21, wherein the storing means comprises:

if a first plurality of the plurality of bits corresponding to a tag received during an initial performance of the interrogating means has not been received during a subsequent performance of the interrogating means within a predetermined time period, means for storing information in the inventory database that indicates a tag corresponding to the first plurality of bits is missing.

23. The system of claim 22, wherein the processing means comprises means for initiating a security action when the first plurality of bits is missing.

24. The system of claim 23, wherein the means for initiating a security action comprises means for turning on a surveillance camera.

25. The system of claim 23, wherein the means for initiating a security action comprises means for activating a silent alarm.

26. The system of claim 20, wherein the processing means comprises means for correlating a remote access sensor module identity with each of the first plurality of bits received by the interrogating means to maintain data regarding the location of each tag corresponding to each of the first plurality of bits.

27. The system of claim 19, wherein the information received by the interrogating means comprises sensor information originated by a sensor associated with a tag within the physical area defined by the coverage pattern.

28. The system of claim 27, wherein the sensor information indicates tag movement and/or vibration.

29. The system of claim 27, wherein the sensor information indicates ambient tag temperature.

30. The system of claim 27, wherein the processing means comprises means for analyzing the sensor information for a condition that indicates a security breach.

31. The system of claim 30, wherein the condition that indicates a security breach comprises a temperature fluctuation.

32. The system of claim 30, wherein the condition that indicates a security breach comprises a sudden vibration.

33. The system of claim 19, wherein the network tag reader is connected to each of the plurality of remote access sensor modules through an electrical power distribution system.

34. The system of claim 19, wherein the means for interrogating comprises:

at the network tag reader,

means for transmitting through the selected remote access sensor module a first clock signal;

at each tag within the physical area defined by the coverage pattern of the selected remote access sensor module,

means for incrementing a first tag count in response to the first clock signal, and

means for transmitting at least a first plurality of the plurality of bits identifying the tag when the first plurality of bits of the tag corresponds to the first tag count;

at the network tag reader,

means for incrementing a first reader count in response to the first clock signal,

means for storing a given first reader count when more than one tag responds to the first clock signal that corresponds to the given first reader count, and

means for transmitting through the selected remote access sensor module the given first reader count followed by a second clock signal; and

at each tag wherein the first plurality of bits corresponds to the first reader count,

means for incrementing a second tag count in response to the second clock signal, and

means for transmitting at least a second plurality of the plurality of bits identifying the tag when the second plurality of the plurality of bits identifying the tag corresponds to the second count.

35. The system of claim 19, wherein the network tag reader is a PCMCIA card

36. The system of claim 19, wherein at least one of the remote access sensor modules attaches to an electrical lighting fixture

37. The method of claim 1, further including the step of performing multiple reads of the tags by the network tag reader to avoid time slot contention, wherein a tag responds to the network tag reader with a first plurality of the plurality of bits during a first read and a second plurality of the plurality of bits during a second read.

38. The system of claim 19, wherein the network tag reader performs multiple reads of the tags to avoid time slot contention, wherein a tag responds to the network tag reader with a first plurality of the plurality of bits during a first read and a second plurality of the plurality of bits during a second read.

## *X. Evidence Appendix (37 C.F.R. § 41.37(c)(1)(ix))*

None

## *XI. Related Proceedings Appendix (37 C.F.R. § 41.37(c)(1)(x))*

None